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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/743,994	01/17/2001	Nobuyuki Doguchi	14198	1525

7590 10/23/2002

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EXAMINER

MULCAHY, JOHN M

ART UNIT PAPER NUMBER

3739

DATE MAILED: 10/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/743,994	Applicant(s) DOGUCHI ET AL.	
	Examiner John M. Mulcahy	Art Unit 3739	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply.**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,5,8,14-16,18 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,6,7,9-13 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                            | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3, 4</u> . | 6) <input type="checkbox"/> Other:  |

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***Election/Restrictions***

1. Applicant's election without traverse of Example 7 in Paper No. 6 is acknowledged. Claims 2, 3, 5, 8<sup>1</sup>, 14-16, 18 and 19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

***Claim Objections***

2. Claim 10 is objected to because of the following informalities: In line 3, it is believed that "many" should be --may--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 10, "the information representing a feature of the connected endoscope" lacks antecedent in claim 1. In action on the merits, this claim was interpreted as depending from claim 4, which provides proper antecedent.

In claim 11, "said signal processing *means*" lacks antecedent in the previous recitation of "a signal processing *unit*" (claim 1).

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***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claims 1, 6, 11, 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seiji (JP 5-253180) in view of Hyncek (5,337,340).

Seiji shows an endoscope system comprising:

As to claim 1: An endoscope having a solid-state imaging device 20 whose sensitivity can be varied by applying a plurality of pulsating driving signals (OFD pulses) so as to change its sensitivity; a signal processing unit 24 for processing a signal output from said solid-state imaging device; a light source unit 10 for irradiating light to an object so that an object image will be projected on said solid-state imaging device; and a sensitivity control means 26 for varying a sensitivity control pulse, applying it to said solid-state imaging device, and thus controlling the sensitivity for said solid-state imaging device.

As to claim 13: said light source unit includes a light level adjustment mechanism realized with an iris diaphragm 12.

As to claim 17: said endoscope is of a field-sequential type (see abstract).

Seiji fails to specify control of the electron multiplication rate. However, Hyncek shows an analogous solid state image sensor in which the sensitivity is varied by

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<sup>1</sup> Although Applicant lists claim 8 as being drawn to the elected species, such claim is plainly drawn to the

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changing the electron multiplication rate. It would have been obvious to the artisan to modify Seiji by using the Hynecek method of varying the sensitivity in order to achieve the advantages cited by Hynecek.

As to claim 6: In Hynecek, the number of pulses exhibited by a pulsating signal to be applied to said solid-state imaging device, and the waveform of the pulse is set for said sensitivity control means.

As to claim 11: In Hynecek said signal processing means includes a means that when an output signal of said solid-state imaging device is lower than a set voltage level, amplifies a gain to be given to the signal (automatic gain control).

b. Claims 4, 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seiji (JP 5-253180) in view of Hynecek (5,337,340) as applied to claim 1 above, further in view of Sasagawa et al. (4,951,135).

Hynecek fails to specify that the sensitivity control means is controlled based on an information signal fed from a connected endoscope and representing a feature of the endoscope. However, Sasagawa et al. teaches such a system wherein the information 6 representing a feature of a connected endoscope, e.g., a type of endoscope or property of the solid state imaging device (col. 6, lines 50-68), with which said sensitivity control means may be controlled is input at an input means 7.

It would have been obvious to the artisan to further modify Sasagawa et al. by controlling the sensitivity based on such information since Sasagawa et al. teaches that such would better adapt to different endoscopes.

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c. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seiji (JP 5-253180) in view of Hynecek (5,337,340) and Sasagawa et al. (4,951,135) as applied to claim 4 above, further in view of Buchin (5,589,874).

Sasagawa et al. fails to teach control based on an f-number for the endoscope or the number of optical fibers constituting a light guide lying through the endoscope. However, Buchin teaches an analogous endoscope in which the f-number is included in the information signal on which control parameters are based (col. 10, lines 26-48). It would have been obvious to the artisan to further modify Seiji by controlling the sensitivity based on the f-number in order to achieve the advantages cited by Buchin.

d. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seiji (JP 5-253180) in view of Hynecek (5,337,340) as applied to claim 1 above, further in view of Eiichiro et al. (JP 7-23278).

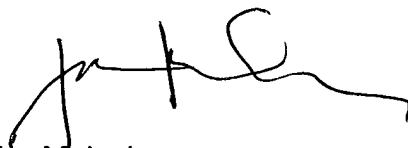
Seiji fails to show that the sensitivity control means is controlled based on a signal representing a driving condition for said solid-state imaging device, e.g., information of an electronic shutter or information based on an imaging signal reading rate. However, Eiichiro et al. teaches such a system in an analogous endoscope. It would have been obvious to the artisan to further modify Seiji to arrive at the claimed invention since Eiichiro et al. teaches that such would expand the usable illumination range.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Mulcahy whose telephone number is (703) 308-3134. The examiner can normally be reached on M-F, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C. M. Dvorak can be reached on (703) 308-0994. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0873.



John M. Mulcahy  
October 20, 2002

John M. Mulcahy  
Primary Examiner  
Art Unit 3739